

Cal/EPA

Wastewater Operator Certification Information



September 2001

What is Operator Certification?

To ensure that wastewater treatment plants in California are properly operated and maintained, the Legislature established the Wastewater Treatment Plant Classification and Operator Certification Program. This law requires every person employed in the operation of a public wastewater treatment plant to have a valid operator certificate. In addition, private plants that are regulated by the Public Utilities Commission (PUC) must have certified operators. The certification level or grade necessary for a specific job is determined by wastewater treatment plant classification criteria. The Office of Operator Certification (OOC) in the Division of Clean Water Programs of the SWRCB is responsible for testing applicants and issuing certifications. The Division also establishes the classification of each wastewater treatment plant.

There are five levels of operator certification. To receive a certificate, a person must meet the minimum experience and education requirements and pass a written test. Any person may take a test by submitting an application form with the appropriate fees and verification of the educational requirements. Complete applications must be postmarked by the published final filing date. These dates are listed on Page 2, Question 6 of this booklet. A person then has time after passing the test to document the experience requirement before receiving their certificate. The amount of experience needed depends on the grade level of the certificate. However, the examination results are valid for four years.

The law establishing the Certificate Program is found in Sections 13625-13633, Chapter 9, Division 7, of the Water Code. Regulations, which implement this law, are found in Sections 3670-3719.19, Chapter 26, Title 23, California Code of Regulations. Copies of the law and regulations can be requested from the OOC.

How to Reach Us

Office of Operator Certification
Division of Clean Water Programs
State Water Resources Control Board
PO Box 944212
Sacramento, CA 94244-2120
www.swrcb.ca.gov/cwphome/opcert
(916) 341-5819



Most frequently asked questions (and answers)

1. How can I get certified?

There are three major things that you must do to get certified.

Number 1 - You must take courses in wastewater treatment plant operations. The number and difficulty depend on the certificate grade you want. **Number 2** - You must pass a written test. Wastewater treatment plant operator certification tests are given twice each year, once in early April and once in early October. Tests for all five grades are given at the same time at several locations throughout the state. To take a test, you must show that you meet the minimum educational requirements and submit a fee and application. **Number 3** - You must meet experience requirements and submit a fee and an application for a certificate. Your experience must be in the operation of a wastewater treatment plant with a valid operator certificate or operator-in training certificate. You may submit your application for a certificate up to four years after you pass the written exam.

2. How can I get a job as a wastewater treatment plant operator?

To work in a public wastewater treatment plant or a private wastewater treatment plant regulated by the PUC, you **must** have a valid wastewater treatment plant operator certificate or an operator-in-training certificate. See Question 1 for details. **If you have no experience as an operator, you must get an Operator-in-Training Certificate.** See Question 4 on how to do that. The owners of the plant do the hiring of operators, usually a city, county or special district. You need to contact them to see if there are any jobs available. Other potential sources of job listings are local newspapers and local section of the California Water Environment Association.

3. What is the Office of Operator Certification (OOC)?

The OOC administers the Wastewater Treatment Plant Operator Certification Program to provide certificates for operators. The OOC conducts the tests required by the regulations, including developing the test questions, processing applications, printing and mailing the certificates, mailing out renewal notices, and processing renewal applications. Along with these major duties, OOC does other work including answering questions, updating regulations, investigating violations of the law and regulations by certified operators, and classifying wastewater treatment plants.

4. How much supervision does an OIT need?

The regulations require that an operator-in training (OIT) be under the direct supervision of an operator with a certificate of equal or higher grade. Direct supervision means the oversight and inspection of the OIT's work by the supervisor without an intervening person. An OIT cannot work as the only operator at a plant during swing, late night or weekend shifts. The OIT must have ready access to the supervising operator, so that if the OIT has any doubt about what to do they can ask. On the other hand, the supervising operator need not be the shift supervisor. The regulations only require a certified operator of equal or higher grade. Common sense indicates a well-experienced operator would be the best mentor for an OIT.

5. Where can I get wastewater treatment plant operator training?

Many State University campuses and Community Colleges offer training. There are also nonprofit organizations and for-profit organizations that also offer training. Please be aware that the law only allows us to recognize training given by colleges and universities and by professional associations or other nonprofit private or public agencies as meeting the educational requirements for certification.

6. When are applications due for examinations?

Our regulations list the examination application final filing dates. They are February 1 for tests given in April and

August 1 for tests given in October. Your complete application package, including fee, must be postmarked no later than the final filing date. Our regulations allow for no exceptions. On the other hand, you may submit your application as early as you like.

7. Do you need a certificate to work at a plant?

The law requires you to have a certificate to work as an operator at a publicly owned wastewater treatment plant or a privately owned plant regulated by the PUC. You do not need a certificate to work as something other than an operator at a wastewater treatment plant, (e.g., a laboratory technician). You do not need a certificate to work as an operator at a privately owned plant not regulated by the PUC. An example is an industrial wastewater treatment plant owned by a private industry.

8. When is the next test?

Tests are given in April and October each year. Tests for all grades are given each time. The following dates have been set:

October 6, 2001	April 6, 2002
October 5, 2002	April 5, 2003
October 4, 2003	

Examinations begin at 9:00 a.m. on the scheduled date. Examinees must show the notice card and photo identification. No books, notes, or references are allowed at the examination site. Hand calculators may be used. Alphanumeric and programmable calculators are not allowed.

9. How long are certificates valid?

Certificates must be renewed every two years. OOC will send you a renewal notice. You must submit an application for renewal and a fee. It must be postmarked before the expiration date. You will receive a new certificate about 30 days later. Renewal is very important. It is illegal to work as an operator with an expired certificate. If you move, please give us your new address so you will receive a renewal notice. Whether or not you receive a renewal notice, **it is your responsibility to submit your application for renewal before the expiration date.** You do not have to take the examination again.

Remember – there is **no** grace period for an expired certificate. Once it expires, it is no longer valid and you cannot work as an operator.

10. What is the difference between drinking water and wastewater treatment plant operator certification?

Drinking water operator certification is separate from wastewater operator certification. Drinking water treatment plant operator certification is required to work as an operator in a treatment plant that produces water for human consumption in homes and businesses. Wastewater treatment plant operator certification is required to work as an operator

in a treatment plant that receives and treats wastewater from homes and businesses. The Department of Health Services administers the water treatment plant operator certification program. They take applications, give tests and issue certificates on applicants who meet their requirements. The drinking water treatment plant operator certification program may be reached at:

Department of Health Services
Office of Drinking Water
Certification Unit
P.O. Box 942732
Sacramento, CA 94234-7320
(916) 327-1140

Roles and responsibilities of certified operators

When you become a certified operator, you take on certain responsibilities of a profession. As a certified operator, you must use reasonable care and judgement in the operation of your plant. You must not commit fraud or deception in the operation of your plant. You must not allow uncertified operators or operators without the proper grade of certificate to operate your plant. You must not willfully or negligently violate, or cause or allow the violation, of your plant's waste discharge requirements issued by the Regional Water Quality Control Board.

There are five grades of certification. Grade I is the easiest to obtain, requiring the least difficult examination. Each succeeding grade requires more education, experience and knowledge regarding treatment processes up to and including that level; therefore, each higher grade has an increasingly more difficult examination.

Likewise, the responsibility and the role an operator takes changes with each grade. The largest and most complex plants are required to have a Chief Plant Operator with at least a Grade V certificate, shift supervisors a minimum of Grade III certificate and at least half of the operators must have a Grade II certificate or higher. On the other hand, a small plant that consists of a pond needs operators with only a Grade I certificate.

Operators holding OIT certificates have the same general responsibilities as operators with regular certificates. However, an OIT may not be a Chief Plant Operator. Additionally, a certified operator at the same or higher grade must directly supervise OITs.

For more information on roles and responsibilities of Chief Plant Operators and OITs, please see the next two sections.

Chief plant operators

The Chief Plant Operator has a unique position among certified operators. Not only does the Chief Plant Operator have management and supervisory responsibilities at the plant, but also additional responsibilities regarding operator certification.

The job of Chief Plant Operator is defined by regulation (Section 3671(h), Title 23, California code of Regulations) as "a supervisor who is certified as an operator and who is responsible for the overall operation of a wastewater treatment plant." This places responsibility for the overall operation of a plant and the achievement of the goals of the certification program on the Chief Plant Operator. Because of the importance of this job, the regulations require that agencies keep the OOC informed of who is their Chief Plant Operator. If an operator is employed at a wastewater treatment plant, the Chief Plant Operator must sign applications for examination and for certificates. The Chief Plant Operator must also sign all applications for OIT certificates. In signing these applications, the Chief Plant Operator is verifying that the information about present employment is true and correct.

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OPERATOR AND OPERATOR-IN-TRAINING FEES

Grade	Examination ¹	Certificate ²	Renewal ³
I	\$ 50	50	50
II	60	70	70
III	115	90	90
IV	145	100	100
V	145	100	100

1. This fee includes both application and examination.
2. The fees for an OIT certificate are the same as an operator certificate.
3. The fees for renewal of an OIT certificate are the same as an operator certificate.

Operators-in-Training

It is illegal to operate a public, or private wastewater treatment plant regulated by the PUC, without a valid certificate. If it takes experience to get a certificate, how can someone without a certificate get experience? The answer is the operator-in training (OIT) certificate. The OIT certificate is a valid **temporary** certificate that allows someone to get experience as an operator.

The regulations define OIT as “any person who operates a wastewater treatment plant under the direct supervision of a certified operator while gaining experience to qualify for an operator certificate.”

An OIT can hold any job at a plant for which they are qualified, except as Chief Plant Operator. OITs must be directly supervised by a certified operator at the same grade as the OIT or higher. The OIT has the same responsibilities under the operator certification regulations as a certified operator.

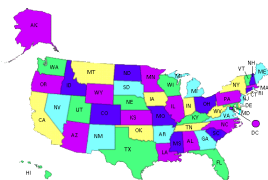
OIT certificates are issued at Grades I through V. You may apply for a Grade I OIT without having passed the test or meeting the education requirements for a Grade I certificate. You need only have a job as a plant operator. OIT certificates are valid for two years. You must gain the required education and pass a wastewater exam during these two years. At the end of the two-year period, if you have passed a wastewater exam, but do not yet have sufficient experience for a regular certificate, your OIT may be renewed once for two more years. However, if you do not pass the examination within the two years, your OIT certificate will not be renewed.

If you apply for an OIT certificate at Grades II through V, you must have passed the test for the grade, met the education requirements and be able to meet the experience requirements within four years after you passed the test. Grades II through V OIT certificates are valid for two years and may be renewed once for up to two more years. However, you still only have four years after you pass the test to get the required experience for that grade.

Applications for OIT certificates must be signed by the Chief Plant Operator. OIT certificates are issued for a specific job at a specific treatment plant. If you change jobs while an OIT, you need to apply for a new certificate.

“Reciprocity”

The word describes an agreement between two parties. With the certification program, it means that California’s operator certification program is recognized by another state as being equivalent to theirs and that California recognizes that state’s program as equivalent to ours. It does **not** mean that you may work in California under a certificate issued by another state. You still need a valid California operator’s certificate. However, what it does mean is that you may qualify for a California certificate without having to pass the test, and may use experience gained while holding another state’s certificate.



California has reciprocity with all states except Florida and Michigan. We do have limitations on reciprocity with other states:

1. Only Grade I and II operator certificates may be granted through reciprocity.
2. For a state to have reciprocity with California, its experience and education requirements must be comparable to California’s and it must grant reciprocal privileges to California certificate holders.
3. You must have passed a written test comparable to California’s at the appropriate level within the last four years.

To get a Grade I or II certificate through reciprocity, you must complete an application and submit it along with the appropriate fee to the OOC.

Plant Classifications

The Water Code gives the OOC responsibility for classifying all publicly owned wastewater treatment plants and private plants regulated by the PUC. Agencies may not “class” their own plants nor can the Regional Boards assign the designations.

The OOC asks that the CPO complete a “Wastewater Treatment Plant Class Data Form”. Copies of the form may be requested by contacting the OOC. That form along with an organization chart, flow diagram of the plant, job descriptions for all personnel classifications and duty rosters must be submitted to the OOC. Once the OOC reviews the information, the CPO will be sent a letter indicating the classification and appropriate operator grades. However, the OOC does not specify how many operators must be employed at each grade.

Class Process		Design Flow (MGD)
I	Pond	All
	Primary	1.0 or less
II	Primary	>1.0 through 5.0
	Biofiltration	1.0 or <
	Extended Aeration	All
III	Primary	>5.0 through 20.0
	Biofiltration	>1.0 through 10.0
	Activated Sludge	5.0 or <
	Tertiary	1.0 or <
IV	Primary	>20.0
	Biofiltration	>10.0 through 30.0
	Activated Sludge	>5.0 through 20.0
	Tertiary	>1.0 through 10.0

V	Biofiltration	>30.0
	Activated Sludge	>20.0
	Tertiary	>10.0

Reporting Requirements

Agencies must report the following to the OOC within 30 calendar days of occurrence:

1. A plant begins operation or changes the design flow or treatment process
2. The person designated as CPO changes
3. Final disciplinary action is taken which results in suspension, demotion or discharge of a certified operator or OIT if the disciplinary action is the result of the commission of any of the acts which are grounds for discipline in Section 3710, Title 23, of the California Code of Regulations.

Contract Operators

Effective August 27, 1994, any person or firm that contracts to operate a public or private wastewater treatment plant must be registered with the OOC. In addition, all operators employed by a contract operator must be certified by the OOC. If you currently operate a public or private treatment plant regulated by PUC, under contract and are not registered, you are in violation of Section 3719, Title 23, California Code of Regulations. You should register immediately. If you plan to operate a public or private treatment plant regulated by PUC under contract in the near future, you must be registered before you start operations.

Registration is done by submitting an application and fee to the OOC. Applications and instructions can be obtained by calling OOC. OOC has 30 days after receipt of an application to either issue a registration or tell the applicant why their application is deficient. Registration must be renewed annually. The renewal application must be postmarked no later than 30 days prior to the registration expiration date.

The responsibilities of a contract operator under the contract operator regulations are similar to those of a certified operator

Experience counts . . .

Applicants may be credited with one year of experience if they have had **two or more years of full-time experience in the operation of a water treatment plant** regulated by the California Department of Health Services or by a

governmental agency in another state. To receive this credit, applicants must meet the following criteria:

1. Experience was obtained while in possession of a valid water treatment plant operator certificate,
2. The water treatment plant where the experience was gained uses two or more of the following processes: coagulation, sedimentation, aeration, filtration, oxidation, or disinfection, and
3. At the time of the application for wastewater certification, the applicant has had one year of experience in the operation of a wastewater treatment plant.

Educational Opportunities



University of California and State Universities

1. All universities offer bachelor of science degrees in engineering or scientific disciplines applicable to wastewater treatment plant operations.
2. The University of California Extension frequently offers courses related to wastewater treatment plant operation. For instance, U.C. Davis Extension offers courses leading to a certificate in environmental hazard management. U.C. Davis Extension may be contacted at (800) 752-0881 or (916) 757-8777. There are extension offices at other campuses.
3. Some State Universities offer evening courses related to wastewater treatment plant operations.
4. California State University, Sacramento, through its Office of Water Programs, offers home study courses in wastewater treatment plant operations and related areas. Contact them at (916) 278-6142 or www.owp.csu.edu for more information.

Community Colleges

Many Community Colleges offer daytime and evening classes. Examples of some colleges are:

College of the Sequoias	(559) 730-3777
Columbia	(209) 588-5100
Citrus	(626) 914-8821
Hartnell	(831) 755-6875
Imperial Valley	(760) 355-6290
L.A. Trade	(213) 744-9087
Mesa	(619) 627-2803
Mt. San Antonio	(909) 594-5611

Palomar	(760) 744-1150
Orange Coast	(714) 432-0202
Santiago Canyon	(714) 564-4545
Sacramento City	(916) 558-2491
San Bernardino	(909) 888-6511
Santa Barbara	(805) 965-0581
Santa Rosa	(707) 527-4603
Shasta College	(530) 225-4660
Solano College	(707) 864-7155
Ventura College	(805) 654-6452

Non-Profit Organizations

The California Water Environment Association is a professional organization for individuals involved in the design and operation of wastewater treatment plants. The Association also offers courses in wastewater treatment plant operations and related fields. Contact the Association at (510) 382-7800 or www.cwea.org for more information.

Other Courses

There are other organizations, both public and private, that offer training in wastewater treatment plant operations and related fields. However, please be aware that our regulations allow us to only count training taken through colleges and universities, public agencies and nonprofit organizations as satisfying the education requirements for certification.

Suggested reading to prepare for testing

Following is a list of references, which may be useful to applicants preparing to take a certification test. Each reference is subject to revision and the current version should be used. Other references covering similar subjects may be used at the applicant's discretion. The SWRCB does not endorse specific reference materials.

Grades I and II

1. "Operation of Wastewater Treatment Plants, Volumes I and II," Kenneth Kerri, Office of Water Programs, California State University, 6000 J Street, Sacramento, CA 95819-6025
2. Title 23, California Code of Regulations, Division 3, Chapter 26, Section 3670, et seq., "Wastewater Treatment Plant Classification, Operator Certification, and Contract Operator Registration Regulations," SWRCB, OOC, P.O. Box 944212, Sacramento, CA 94244-2120

Grades III

1. Both listed above.
2. "Advanced Waste Treatment," Kenneth Kerri, Office of Water Programs, California State University, 6000 J Street, Sacramento, CA 95819-6025
3. "Pretreatment Facility Inspection," Kenneth Kerri, address listed above.
4. Water Environment Federation Manual of Practice Wythe Street, Alexandria, VA 23314-1994

No. 1, "Safety and Health in Wastewater Systems"
No. OM-9, "Activated Sludge"

No. 11, "Operation of Municipal Wastewater Treatment Plants"

5. Title 8, California Code of Regulations, Division 1, Chapter 4, Article 108, "Confined Spaces", and Section 3203, "Injury and Illness Prevention Program," Division of Occupational Safety and Health, P.O. Box 420603, San Francisco, CA 94142

6. Title 22, California Code of Regulations, Division 4, Chapter 3, "Reclamation Criteria," Environmental Management Branch, Department of Health Services, P.O. Box 942732, Sacramento, CA 94234-7320

Grades IV and V

1. All of the above.
2. "Wastewater Engineering," Metcalf and Eddy, Inc., McGraw Hill Book Company, 1221 Avenue of the Americas, New York, NY 10020.
3. "Industrial Wastewater Treatment", Kenneth Kerri, Office of Water Programs, California State University, 6000 J Street, Sacramento, CA 95819-6025
4. Water Environment Federation Manual of Practice No. SM-4, "Plant Managers' Handbook", 610 Wythe Street, Alexandria, VA 23314-1994

REQUIREMENTS BY GRADE			
Grade I			
Path 1	6 educational points	and	1 year performing duties of operator
Grade II			
Path 1	High School or equivalent and 6 educational points	and	2 years performing duties of operator
Path 2			1 1/2 years as Grade I
Grade III			
Path 1	Associate degree or 60 college semester units including 15 semester units of basic science courses	and	2 years performing duties of operator
Path 2	High School or equivalent and 16 educational points	and	4 years performing duties of operator
Path 3			3 years as Grade II
Grade IV			
Path 1	Bachelor's degree with a major related to wastewater treatment including 30 semester units of basic science courses	and	2 years performing duties of operator
Path 2	Associate degree or 60 college semester units including 15 semester units of basic science courses	and	4 years performing duties of operator
Path 3	High School or equivalent and 32 educational points	and	6 years performing duties of operator
Path 4			4 years as Grade III
Grade V			
Path 1	Valid license as a civil or chemical engineer issued by the California Board of Registration for Professional Engineers and Land Surveyors	and	4 years performing duties of operator
Path 2	Bachelor's degree with a major related to wastewater treatment including 30 semester units of basic science courses	and	5 years performing duties of operator
Path 3	Associate degree or 60 college semester units including 15 semester units of basic science courses	and	6 years performing duties of operator
Path 4	High School or equivalent and 48 educational points	and	10 years performing duties of operator
Path 5			6 years as Grade IV